

What is claimed is:

1. A compressor, comprising:
  - a housing;
  - a shaft disposed in said housing, said shaft having a longitudinal axis;
  - an inner swash plate portion attached to said shaft at a fixed angle relative to the longitudinal axis of said shaft;
  - an outer swash plate portion coupled to said inner swash plate portion;
  - and
  - a bearing assembly by which said outer swash plate portion is coupled to said inner swash plate portion;
  - wherein said bearing assembly is adapted to accommodate both the radial load and the axial load of the swash plate portions.
2. The compressor as claimed in claim 1, wherein said inner swash plate portion is integrally formed with said shaft.
3. The compressor as claimed in claim 1, wherein said bearing assembly comprises an angular contact bearing.
4. The compressor as claimed in claim 3, wherein said bearing assembly comprises a duplex bearing.
5. The compressor as claimed in claim 4, wherein said bearing assembly comprises a tandem duplex bearing.
6. The compressor as claimed in claim 4, wherein said bearing assembly comprises a back-to-back duplex bearing.
7. The compressor as claimed in claim 4, wherein said bearing assembly comprises a face-to-face duplex bearing.
8. The compressor as claimed in claim 3, wherein said bearing assembly comprises a double row angular contact bearing.

9. The compressor as claimed in claim 8, wherein said bearing assembly is a shielded double row bearing.
10. The compressor as claimed in claim 8, wherein said bearing assembly is a sealed double row bearing.
11. The compressor as claimed in claim 1, wherein said bearing assembly comprises a four-point contact bearing.
12. The compressor as claimed in claim 1, wherein said bearing assembly comprises a tapered roller bearing.
13. A compressor, comprising:
  - a housing;
  - a shaft disposed in said housing, said shaft having a longitudinal axis;
  - a swash plate coupled to said shaft at a fixed angle relative to the longitudinal axis of said shaft; and
  - a bearing assembly by which said swash plate is coupled to said shaft;wherein said bearing assembly is adapted to accommodate both the radial load and the axial load of the swash plate.
14. The compressor as claimed in claim 13, wherein said bearing assembly comprises an angular contact bearing.
15. The compressor as claimed in claim 14, wherein said bearing assembly comprises a duplex bearing.
16. The compressor as claimed in claim 15, wherein said bearing assembly comprises a tandem duplex bearing.
17. The compressor as claimed in claim 15, wherein said bearing assembly comprises a back-to-back duplex bearing.
18. The compressor as claimed in claim 15, wherein said bearing assembly comprises a face-to-face duplex bearing.

19. The compressor as claimed in claim 14, wherein said bearing assembly comprises a double row angular contact bearing.

20. The compressor as claimed in claim 19, wherein said bearing assembly is a shielded double row bearing.

21. The compressor as claimed in claim 19, wherein said bearing assembly is a sealed double row bearing.

22. The compressor as claimed in claim 13, wherein said bearing assembly comprises a four-point contact bearing.

23. The compressor as claimed in claim 13, wherein said bearing assembly comprises a tapered roller bearing.

24. A compressor, comprising:

a housing having at least one piston channel;

a shaft disposed in said housing;

a swash plate coupled to said shaft;

at least one piston disposed in the at least one piston channel and movable therein;

wherein said swash plate is coupled to said at least one piston and inclined at an angle relative to the direction of motion thereof; and

a bearing assembly by which said swash plate is coupled to said shaft, such that the angle at which said swash plate is inclined relative to the direction of motion of the at least one piston remains fixed as said shaft rotates;

wherein said bearing assembly is adapted to accommodate both the radial load and the axial load of the swash plate.

25. A compressor, comprising:

a housing;

a shaft disposed in said housing, said shaft having a longitudinal axis;  
an inner swash plate portion attached to said shaft at a fixed angle relative to the longitudinal axis of said shaft;  
an outer swash plate portion coupled to said inner swash plate portion;  
and  
an angular contact bearing by which said outer swash plate portion is coupled to said inner swash plate portion.

26. A compressor, comprising:

a housing;  
a shaft disposed in said housing, said shaft having a longitudinal axis;  
a swash plate coupled to said shaft at a fixed angle relative to the longitudinal axis of said shaft; and  
an angular contact bearing by which said swash plate is coupled to said shaft.